

# Polar Geoscience

No. 12

## CONTENTS

Geology of ultrahigh-temperature metamorphic rocks from Tonagh Island in the Napier Complex, East Antarctica ..... <i>Yasuhito OSANAI, Tsuyoshi TOYOSHIMA, Masaaki OWADA,</i> <i>Toshiaki TSUNOGAE, Tomokazu HOKADA</i> <i>and Warwick A. CROWE ...</i>	1
Deformation of ultrahigh-temperature metamorphic rocks from Tonagh Island in the Napier Complex, East Antarctica ..... <i>Tsuyoshi TOYOSHIMA, Yasuhito OSANAI, Masaaki OWADA,</i> <i>Toshiaki TSUNOGAE, Tomokazu HOKADA</i> <i>and Warwick A. CROWE ...</i>	29
Petrology and metamorphism of sapphirine-bearing aluminous gneisses from Tonagh Island in the Napier Complex, East Antarctica ..... <i>Tomokazu HOKADA, Yasuhito OSANAI, Tsuyoshi TOYOSHIMA,</i> <i>Masaaki OWADA, Toshiaki TSUNOGAE and Warwick A. CROWE ...</i>	49
Metamorphic reactions and preliminary <i>P-T</i> estimates of ultrahigh-tempera- ture mafic granulite from Tonagh Island in the Napier Complex, East Antarctica ..... <i>Toshiaki TSUNOGAE, Yasuhito OSANAI, Tsuyoshi TOYOSHIMA,</i> <i>Masaaki OWADA, Tomokazu HOKADA and Warwick A. CROWE ...</i>	71
Petrography and geochemistry of mafic and ultramafic rocks from Tonagh Island in the Napier Complex, East Antarctica: A preliminary report ..... <i>Masaaki OWADA, Yasuhito OSANAI, Tsuyoshi TOYOSHIMA,</i> <i>Toshiaki TSUNOGAE, Tomokazu HOKADA</i> <i>and Warwick A. CROWE ...</i>	87
Geochemical study of granulites from Mt. Riiser-Larsen, Enderby Land, East Antarctica: Implication for protoliths of the Archaean Napier Complex ..... <i>Satoko SUZUKI, Tomokazu HOKADA, Masahiro ISHIKAWA</i> <i>and Hideo ISHIZUKA ...</i>	101
Experimental estimation of emplacement depth of granitic dikes from the Sør Rondane Mountains, East Antarctica ..... <i>Takanobu OBA and Kazuyuki SHIRAISHI ...</i>	126

Mineralogy of scapolite from Skallen in the Lützow-Holm Bay region, East Antarctica	..... <i>Isao KUSACHI, Yasuhito OSANAI, Tsuyoshi TOYOSHIMA, Masaaki OWADA, Toshiaki TSUNOGAE, Tomokazu HOKADA and Warwick A. CROWE</i> ...	143
Preliminary result for the Rb-Sr mineral isochron ages of granitic rocks from Cape Omega and Oku-iwa Rock, Prince Olav Coast, East Antarctica	..... <i>Naoko NISHI, Yoshinobu KAWANO and Hiroo KAGAMI</i> ...	157
Preliminary result for the Rb-Sr whole-rock age and initial Nd isotope ratios from the Closepet granite in Karnataka, Southern India	..... <i>Yoshiaki TAINOSHO, Hiroo KAGAMI and B. MAHABALESWAR</i> ...	166
$^{40}\text{Ar}$ - $^{39}\text{Ar}$ ages of dolerite dykes from Sri Lanka	..... <i>Yutaka TAKIGAMI, Masaru YOSHIDA and Minoru FUNAKI</i> ...	176
Aftershock activity of the great 1998 earthquake in the Antarctic plate	..... <i>Katsutada KAMINUMA, Reiji KOBAYASHI, Yoshifumi NOGI and Masaki KANAO</i> ...	183
Preliminary report of the TH97 geological and geophysical survey results, north of the Antarctic Peninsula	..... <i>Manabu TANAHASHI, Akira NISHIMURA, Hirokuni ODA and Fumitoshi MURAKAMI</i> ...	192
Marine sediment cores from the continental shelf around Anvers Island, Antarctic Peninsula region	..... <i>Akira NISHIMURA, Manabu TANAHASHI, Shuichi TOKUHASHI, Hirokuni ODA and Toru NAKASONE</i> ...	215
A case study of generating a digital elevation model for the Sôya Coast area, Antarctica, using JERS-1 SAR interferometry	..... <i>Taku OZAWA, Koichiro DOI and Kazuo SHIBUYA</i> ...	227
Concept design of HAYATE: Small satellite for supporting Antarctic geophysical observations	..... <i>Keisuke YOSHIHARA, Yoshiki SUGIURA, Masato SEKIGUCHI, Kyoichi UI, Singo TSURUMI, Koji NAKAYA, Makoto MORI, Saburo MATUNAGA and Yoshiaki OHKAMI</i> ...	240
$^{14}\text{C}$ anomaly of freshwater algae in Antarctic coastal ponds and lakes	..... <i>Hiroshi A. TAKAHASHI, Hideki WADA, Toshio NAKAMURA and Hideki MIURA</i> ...	248
Monitoring of thermal contraction cracking at an ice wedge site, central Spitsbergen	..... <i>Norikazu MATSUOKA</i> ...	258
Note to contributors	.....	272
Author index	.....	274